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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,664	09/02/2003	Young-Hoon Ko	764-26	4619

7590 03/24/2004

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(PX1586-US/KHP)

EXAMINER

RABAGO, ROBERTO

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/653,664

Applicant(s)

KO ET AL.

Examiner

Roberto Rábago

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required. Regarding claim 3, no disclosure in the specification can be found for the limitation wherein lithium hydride is made by a method comprising "injecting an alkyl lithium solution through the high-speed injection nozzle and reacting the injected alkyl lithium solution with gaseous hydrogen." This limitation appears to be in direct contravention to the teachings of the specification, wherein it is stated at several locations that it is the hydrogen which is injected through the high-speed injection nozzle, not the alkyl lithium compound (see first three lines of page 4, also page 10, numbered lines 25-28).

### ***Claim Objections***

2. Claim 2 is objected to because it contains no period at its end.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

Art Unit: 1713

applicant regards as the invention. For each issue set forth below, claims dependent upon cited claims are also indefinite in view of their dependency.

(a) In claim 1, part (c), the scope of the phrase “precisely controlled particle diameter” cannot be determined.

(b) In claim 1, part (c), the scope of the phrase “high-speed injection nozzle” cannot be determined because the specification contains no discussion of the particulars of such nozzles. Should applicants take the position that those of ordinary skill in the art would immediately know which types of nozzles would be considered “high-speed”, they should provide reference citations of such teachings.

(c) In claim 1, part (c), the significance of the “high-speed injection nozzle” cannot be determined because the claim provides no indication of how the nozzle is used to make the lithium hydride. This issue is particularly significant in view of the fact that claim 3 recites a method of using the nozzle which is substantially different from that described in the specification (see item 1 above).

(d) In claim 3, the limitation “a particle diameter within 2,000 nanometers” is indefinite because it cannot be determined whether: (a) the particles must comprise at least some particles less than 2,000 nm diameter, (b) the maximum diameter is less than 2,000 nm, or (c) the average diameter is less than 2,000 nm.

(e) In claim 4, the limitation “a particle diameter within 500 nanometers” is indefinite because it cannot be determined whether: (a) the particles must comprise at least some particles less than 500 nm diameter, (b) the maximum diameter is less than 500 nm, or (c) the average diameter is less than 500 nm.

Art Unit: 1713

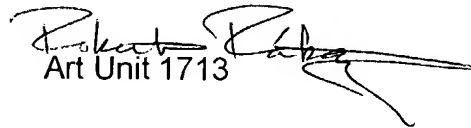
5. Applicants' specification contains comparative examples which appear to indicate that the method of making the lithium hydride and the LiH particle size have significant effects on the method of hydrogenation; accordingly, a proper review of the prior art, including the references cited on the IDS, cannot be made until the issues set forth in item 4 have been addressed and the claimed scope has been clarified.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rábago whose telephone number is (571) 272-1109. The examiner can normally be reached on Monday - Friday from 8:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**ROBERTO RABAGO**  
**PATENT EXAMINER**

  
Art Unit 1713

RR  
March 19, 2004